

## **IN THE CLAIMS:**

This listing of claims will replace all prior versions, and listings, of claims in the application.

### **Listing of Claims:**

1. (Currently Amended) In an implantable medical device (IMD) ~~of the type that has~~ having a sense amplifier that ~~detects~~ senses cardiac signals associated with indicative of intrinsic depolarizations of a heart chamber that exceed a sensing threshold and having an algorithm for ~~use~~ detection of a spontaneous tachyarrhythmia episode from sensed cardiac signals in accordance with a detection criteria that includes an onset of detection criteria, a method comprising:

~~upon satisfaction of at least one pre-detection criteria associated with potential detection of a tachyarrhythmia episode, measuring~~ beginning a measurement of detected peak amplitudes of the sensed cardiac signals at an onset of detection of a spontaneous tachyarrhythmia episode and continuing measurement of detected peak amplitudes of the sensed cardiac signals until normal rhythm returns; and

storing data representing one or more of the detected peak amplitude measurements; and ~~one or more of the measured peak amplitudes of the cardiac signal and associating the stored one or more peak amplitudes with subsequent delivery of a therapy in response to the tachycardia episode~~

using the stored data in adjusting the sense amplifier sensing threshold.

2. (Previously Presented) The method of Claim 1, wherein the sensing threshold is adjusted to a level related to the one or more of the measured peak amplitudes to assure sensing of cardiac signals having diminished peak amplitudes during tachyarrhythmia episodes.

3. (Original) The method of Claim 2, wherein the implantable medical device further has the capability of delivering at least one anti-tachyarrhythmia therapy to the heart chamber upon satisfaction of detection criterion for a tachyarrhythmia episode.

4. (Original) The method of Claim 1, wherein the implantable medical device further has the capability of delivering at least one anti-tachyarrhythmia therapy to the heart chamber upon satisfaction of detection criterion for a tachyarrhythmia episode.

5. (Currently Amended) The method of Claim 1, further comprising:  
comparing the one or more of the ~~measured~~ detected peak amplitude measurements ~~amplitudes~~ of the cardiac signal to the sensing threshold and issuing a sense event signal when the one or more of the ~~measured~~ detected peak amplitude measurements ~~amplitudes~~ meets the sensing threshold; and  
processing sense event signals in relation to at least one pre-detection criteria associated with potential detection of a tachyarrhythmia episode.

6. (Currently Amended) The method of Claim 5, wherein the sensing threshold is adjusted to a level related to the one or more ~~measured~~ detected peak amplitude measurements ~~amplitudes~~ to assure sensing of cardiac signals having diminished peak amplitudes during tachyarrhythmia episodes.

7. (Currently Amended) ~~In an implantable medical device of the type that has a sense amplifier that detects cardiac signals associated with intrinsic depolarizations of a heart chamber that exceed a sensing threshold for use detection of a tachyarrhythmia episode, a~~ The method of claim 1 further comprising:

~~upon satisfaction of at least one detection criteria associated with a tachyarrhythmia episode, measuring peak amplitudes of the cardiac signal;~~  
~~storing one or more of the measured peak amplitudes of the cardiac signal~~  
~~and associating the stored one or more peak amplitudes with subsequent delivery of a therapy in response to the tachycardia episode;~~  
transmitting the stored one or more of the detected peak amplitude  
amplitudes measurements to an external device; and  
transmitting an adjustment to the sensing threshold from the external device to the implantable medical device, the adjustment to the sensing threshold being in response to the transmitted stored one or more of the detected  
measured peak amplitude measurements ~~amplitudes~~.

8-12. Cancelled.

13. (Currently Amended) ~~In an~~ An implantable medical device  
~~of the type that has a sense amplifier that detects cardiac signals associated with intrinsic depolarizations of a heart chamber that exceed a sensing threshold for use detection of a tachyarrhythmia episode, a system comprising:~~  
a sense amplifier that senses cardiac signals indicative of intrinsic depolarizations of a heart chamber that exceed a sensing threshold;  
means for executing an algorithm for detection of a spontaneous tachyarrhythmia episode from sensed cardiac signals in accordance with a detection criteria that includes an onset of detection criteria;  
means for detecting and measuring the peak amplitude of the sensed cardiac signals beginning at an onset of detection of a spontaneous tachyarrhythmia episode and continuing measurement of detected peak amplitudes of the sensed cardiac signals until normal rhythm returns ~~upon~~  
~~satisfaction of at least one pre-detection criteria associated with potential detection of a tachyarrhythmia episode;~~

means for storing data representing one or more of the measured peak amplitudes of the sensed cardiac signals ~~and associating the stored one or more peak amplitudes with subsequent delivery of a therapy in response to the tachycardia episode;~~

means for transmitting the stored data ~~one or more of the peak amplitudes~~ to an external device; and

means for transmitting an adjustment to the sensing threshold from the external device to the implantable medical device, the adjustment to the sensing threshold being in response to the transmitted data ~~transmitted stored one or more of the measured peak amplitudes.~~

14. (Previously Presented) The system of Claim 13, wherein the sensing threshold is adjusted to a level related to the one or more measured peak amplitudes to assure sensing of cardiac signals having diminished peak amplitudes during tachyarrhythmia episodes.

15. (Original) The system of Claim 14, wherein the implantable medical device further has the capability of delivering at least one anti-tachyarrhythmia therapy to the heart chamber upon satisfaction of detection criterion for a tachyarrhythmia episode.

16. (Original) The system of Claim 13, wherein the implantable medical device further comprises means for delivering at least one anti-tachyarrhythmia therapy to the heart chamber upon satisfaction of detection criterion for a tachyarrhythmia episode.

17. (Currently Amended) The system of Claim 13, further comprising:  
means for comparing the one or more of the measured peak amplitudes of the cardiac signal to the sensing threshold and issuing a sense event signal

when the one or more of the measured peak amplitudes meets the sensing threshold; and

means for processing sense event signals in relation to the onset of detection criteria of the detection algorithm ~~at least one pre-detection criteria associated with potential detection of a tachyarrhythmia episode.~~

18. (Previously Presented) The system of Claim 17, wherein the sensing threshold is adjusted to a level related to the one or more measured peak amplitudes to assure sensing of cardiac signals having diminished peak amplitudes during tachyarrhythmia episodes.

19-24. Cancelled.